



NEWS RELEASE

Inovio Achieves Third Cancer Indication Milestone for MEDI0457 Phase 2 Development

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PLYMOUTH MEETING, Pa., April 8, 2019 /PRNewswire/ -- Inovio Pharmaceuticals, Inc. (NASDAQ: INO) announced today that it achieved a third indication milestone from AstraZeneca resulting from dosing a patient in a Phase 2 combination trial evaluating MEDI0457 (formerly called INO-3112) in combination with durvalumab targeting cervical, anal, penile, and vulvar cancers associated with the human papilloma virus (HPV). The milestone achievement for this multi-indication trial is the third MEDI0457-related Phase 2 milestone from AstraZeneca; two previous milestone payments resulted from initiating Phase 2 combination trials targeting head and neck and cervical cancers. Financial arrangements were not disclosed.

Dr. J. Joseph Kim, Inovio's President and Chief Executive Officer, said, "This Phase 2 milestone stresses the potential breadth of MEDI0457 in treating multiple HPV-associated cancers. Inovio's goal is to lead the HPV-treatment market from pre-cancers with its lead product VGX-3100 to cancers with MEDI0457 along with our partner AstraZeneca."

In several on-going Phase 2 cancer-indication trials, AstraZeneca is evaluating MEDI0457 in combination with durvalumab, an anti-PD-L1 immune checkpoint inhibitor, in patients with HPV-associated head and neck, cervical, anal, penile, and vulvar cancers. Inovio is developing its HPV monotherapy VGX-3100 for pre-cancerous indications in a Phase 3 trial for cervical dysplasia; and in Phase 2 trials for vulvar and anal dysplasia.

About MEDI0457 and VGX-3100

MEDI0457 (formerly called INO-3112 (VGX-3100, plus IL-12) which AstraZeneca in-licensed from Inovio) is under evaluation by AstraZeneca to treat HPV-associated cancers. Inovio is investigating VGX-3100, a DNA-based immunotherapy for the treatment of HPV-16 and HPV-18 infection and pre-cancerous lesions of the cervix (Phase 3) and vulva (Phase 2) and anal (Phase 2). VGX-3100 has the potential to be the first approved treatment for HPV infection of the cervix and the first non-surgical treatment for pre-cancerous cervical lesions. VGX-3100 works by stimulating a specific immune response to HPV-16 and HPV-18, which targets the infection and causes destruction of pre-cancerous cells. In a randomized, double-blind, placebo-controlled Phase 2b study in 167 adult women with histologically documented HPV-16/18 cervical HSIL (CIN2/3), treatment with VGX-3100 resulted in a statistically significantly

greater decrease in cervical HSIL and clearance of HPV infection vs. placebo. The most common side effect was injection site pain, and no serious adverse events were reported. VGX-3100 utilizes the patient's own immune system to clear HPV-16 and HPV-18 infection and pre-cancerous lesions without the increased risks associated with surgery, such as loss of reproductive health and negative psychosocial impacts.

Under the 2015 agreement, AstraZeneca acquired exclusive rights to Inovio's INO-3112, now called MEDI0457. MEDI0457 targets cancers caused by HPV types 16 and 18 which are responsible for more than 70 percent of cervical pre-cancers and cancers and are involved in the development of other tumors. Within the broader license and collaboration agreement, AstraZeneca and Inovio are co-developing one additional DNA-based cancer therapy product not included in Inovio's current product pipeline, which AstraZeneca has exclusive rights to develop and commercialize. Inovio will receive development, regulatory and commercialization milestone payments for these additional cancer vaccine products and will be eligible to receive royalties on worldwide net sales.

About Durvalumab

Durvalumab, a human monoclonal antibody directed against PD-L1, blocks PD-L1 interaction with PD-1 and CD80 on T cells, countering the tumor's immune-evading tactics and inducing an immune response. As part of a broad development program, durvalumab is being investigated as monotherapy and in combination with IO, small molecules, and chemotherapies across a range of tumors and stages of disease.

About Inovio Pharmaceuticals, Inc.

Inovio is a late-stage biotechnology company focused on the discovery, development, and commercialization of DNA-based immunotherapies and vaccines that transform the treatment and prevention of cancer and infectious disease. Inovio's proprietary technology platform applies antigen sequencing and DNA delivery to activate potent immune responses to targeted diseases. The technology functions exclusively in vivo, and has been demonstrated to consistently activate robust and fully functional T cell and antibody responses against targeted cancers and pathogens. Inovio's most advanced clinical program, VGX-3100, is in Phase 3 for the treatment of HPV-related cervical pre-cancer. Also in development are Phase 2 immuno-oncology programs targeting HPV-related cancers, bladder cancer, and glioblastoma, as well as platform development programs in hepatitis B, Zika, Ebola, MERS, and HIV. Partners and collaborators include AstraZeneca, Regeneron, Roche/Genentech, ApolloBio Corporation, The Wistar Institute, The Bill & Melinda Gates Foundation, the University of Pennsylvania, Parker Institute for Cancer Immunotherapy, CEPI, DARPA, GeneOne Life Science, Plumblin Life Sciences, NIH, HIV Vaccines Trial Network, National Cancer Institute, Walter Reed Army Institute of Research, Drexel University, and Laval University. For more information, visit www.inovio.com.

This press release contains certain forward-looking statements relating to our business, including our plans to develop electroporation-based drug and gene delivery technologies and DNA vaccines, our expectations regarding our research and development programs, including the planned initiation and conduct of clinical trials and the availability and timing of data from those trials. Actual events or results may differ from the expectations set forth herein as a result of a number of factors, including

uncertainties inherent in pre-clinical studies, clinical trials and product development programs, the availability of funding to support continuing research and studies in an effort to prove safety and efficacy of electroporation technology as a delivery mechanism or develop viable DNA vaccines, our ability to support our pipeline of SynCon® active immunotherapy and vaccine products, the ability of our collaborators to attain development and commercial milestones for products we license and product sales that will enable us to receive future payments and royalties, the adequacy of our capital resources, the availability or potential availability of alternative therapies or treatments for the conditions targeted by us or our collaborators, including alternatives that may be more efficacious or cost effective than any therapy or treatment that we and our collaborators hope to develop, issues involving product liability, issues involving patents and whether they or licenses to them will provide us with meaningful protection from others using the covered technologies, whether such proprietary rights are enforceable or defensible or infringe or allegedly infringe on rights of others or can withstand claims of invalidity and whether we can finance or devote other significant resources that may be necessary to prosecute, protect or defend them, the level of corporate expenditures, assessments of our technology by potential corporate or other partners or collaborators, capital market conditions, the impact of government healthcare proposals and other factors set forth in our Annual Report on Form 10-K for the year ended December 31, 2018 and other regulatory filings we make from time to time. There can be no assurance that any product candidate in our pipeline will be successfully developed, manufactured or commercialized, that final results of clinical trials will be supportive of regulatory approvals required to market licensed products, or that any of the forward-looking information provided herein will be proven accurate. Forward-looking statements speak only as of the date of this release, and we undertake no obligation to update or revise these statements, except as may be required by law.

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